	Average	Bootstrapping 95% confidence level
Total costs per patient and year [DM]	5,539	5,184–5,894
Total costs for Germany [DM]	21 billion	19,5–22,5 billion
HbA1c	7.84	7.63–8.07
Treatment type [%]		
Diet	19.4	16.7–22.1
OAD	53.0	49.6–56.4
Insulin	27.6	24.5–30.7

PDB4

EFFECT OF A POLICY CHANGE ON USE OF BLOOD GLUCOSE MONITORS BY DIABETICS WITH MEDICARE COVERAGE

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OBJECTIVE: To study the impact of a Medicare policy change, effective July 1998, extending coverage for glucose test equipment to all diabetics, including those not using insulin. **METHODS:** Using a file of 5% of Medicare beneficiaries, we identified those with continuous fee-for-service coverage from 1996-1998 and a diabetes diagnosis on inpatient or physician claims in 1997. Monitor and test strip use was determined by allowed claims in the durable medical equipment claim files. **RESULTS:** We identified 163,990 diabetic subjects (estimated prevalence among Medicare beneficiaries, 14%). Fourteen percent of diabetics were estimated to have used glucose monitors prior to January 1997; an additional 6.1% had new monitor claim(s) between January 1997 and December 1998. From July through December 1998, mean number of new monitor users per month was nearly triple that observed prior to July 1998. Nearly all of those beginning monitor use between January 1997 and June 1998 had claim modifiers indicating insulin dependence, compared to 59% of new users between July and December 1998. The proportion of subjects with test strip or monitor claims in 1999 did not differ significantly between those who commenced use prior to July 1998, and those who did so between July 1998 and December 1998; among new users of monitors, insulin users and non-users were equally likely to have monitor or strip claims in 1999. Insulin users had a higher number of claims per person. **CONCLUSIONS:** Although extended coverage increased new glucose monitor use in insulin users and non-users, overall use by diabetics remained relatively low. New and established users were equally likely to sustain use in 1999. As new technology becomes available for glucose monitoring, claims data offer a method of identifying the potential target population and estimating the likely impact of coverage policy changes on utilization and costs.

PDB5

THE ECONOMIC BURDEN OF TYPE 2 DIABETES ON THE INDIVIDUAL

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OBJECTIVE: To estimate the personal expenditure and lost earnings borne by individuals as a result of Type 2 Diabetes. **METHOD:** A postal questionnaire was sent to a random sample of 750 Type 2 Diabetes patients and their informal carers at each of 4 UK clinical centres as part of the T[2]ARDIS cost of illness survey. The samples were drawn from registers including patients receiving only primary care as well as those receiving hospital care. Personal expenditure data were collected from the questionnaire. Lost earnings were estimated for working age respondents who reported that they were not working full time because of their diabetes or because of the demands of caring for someone with Type 2 Diabetes. Age and gender specific average earnings were then applied, adjusted downwards for national unemployment. **RESULTS:** A total of 1578 patients (52.6%) and 500 regular informal carers responded to the survey. There was no significant response bias amongst the patients, based on checks of non-respondent demographics and treatment regimes. The patients (n = 1578) reported average personal expenditure of £234 per year (SD 1486), but those with an informal carer (n = 500) reported higher average expenditure at £384 per year (SD 2195). A wide range of expenditure items was reported but the largest single category of expenditure was private healthcare and OTC medication. Carers themselves (n = 500) reported an average of £161 (SD 549) personal expenditure per year. The lost earnings of patients and carers combined were estimated at £568 (SD 3463) per patient (n = 1578), and £1441(SD 5620) per patient with a carer (n = 500). **CONCLUSION:** People with Type 2 Diabetes and their informal carers incur a substantial economic burden, before consideration of the impact on their quality of life. This burden includes significant personal expenditure, particularly on private healthcare, and significant lost earnings as a result of the condition.

PDB6

THE FINANCIAL EFFECTS OF INTERFACE AGREEMENTS FOR DIABETES MELLITUS: SOCIOECONOMIC RELEVANCE OF INTENSIVE CONTROLLED INSULIN THERAPY WITH INSULIN LISPRO COMPARED TO REGULAR HUMAN INSULIN

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OBJECTIVES: To assess the costs of intensive controlled therapy with insulin lispro compared to regular human

insulin in different stages of health care. The background of the study was that a few sickness insurance funds have made interface agreements which defined patient referral up the ladder on the basis of HbA1c levels to improve the care of diabetes mellitus patients. The study focused on whether patients under treatment with insulin lispro could be kept in primary care. The hypothesis was that the more frequent patients were referred to a specialist or hospitalized the higher the costs they incur. The exploratory study was put together to get some basic costings from which a hypothesis can be generated for a prospective naturalistic study. **METHODS:** A Markov model was used to estimate the expected costs between the two therapies. Patients with type 1 and type 2 diabetes mellitus were included. Estimates of resource utilization were obtained from published studies and from an expert panel of 19 general practitioners (GPs) and diabetologists. Each expert retrospectively documented the resource utilization of three defined patients for each health care level over a period of one year. Only direct costs were considered (perspective from statutory health insurances). **RESULTS:** The results revealed a clear difference of DM 468 in annual costs per patient in favor of insulin lispro under actual treatment conditions (insulin lispro DM 2,994; regular human insulin DM 3.462). According to guidelines resulting treatment costs for both cohorts were roughly identical (insulin lispro DM 3,568, regular human insulin DM 3,581). **CONCLUSION:** Based on the assumptions used in the model, intensive controlled treatment of diabetic patients with insulin lispro under actual treatment conditions results in lower costs due to a lower probability of hospitalization and lower GPs treatment costs, in spite of the initially higher price of insulin lispro. These differences will be the subject of a prospective cohort study with a naturalistic design, testing the main hypothesis whether hospitalization costs can be reduced by treatment with insulin lispro and whether the patients can be kept in primary care settings with improved care and lower costs.

PDB7

HEALTH RELATED QUALITY OF LIFE IN TYPE 2 DIABETES

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OBJECTIVE: To identify the impact of Type 2 Diabetes on Health-related Quality of Life (HrQoL) using the EuroQol (EQ-5D). **METHOD:** The EQ-5D questionnaire was sent by post to a random sample of 750 Type 2 Diabetes patients at each of 4 UK clinical centres as part of the T[2]ARDIS cost of illness survey. The samples were drawn from registers including patients receiving only primary care as well as those receiving hospital care. The impact of complications of Type 2 diabetes on HrQoL was evaluated. Comparison of the EQ-5D index findings was made with data from the 1996 Health Survey of England. **RESULTS:** A total of 1510 EQ-5D index questionnaires were returned (50.3%). There was no significant response bias, based on checks of non-respondent demographics and treatment regimes. The T[2]ARDIS respondents demonstrated significantly more problems ("some problems" plus "extreme problems") than the general population across each of the five domains of the EQ-5D index. The deficit in HrQoL versus the general population was most marked in the <45 age group. The complications of diabetes were also found to be associated with reduced HrQoL; pairs of respondents matched for 10 year age group, gender and smoking were identified in subgroups representing those with no complications, microvascular complications, macrovascular complications, and both micro and macrovascular complications (n = 89 in each subgroup). All the complications subgroups showed significantly lower HrQoL than the subgroup with no complications ($P < 0.01$ in all cases). The mean EQ-5D Index scores for the four groups were: none = 0.79, micro = 0.7, macro = 0.7 and both = 0.49. **CONCLUSION:** People with Type 2 Diabetes experience significantly lower HrQoL than their peers in the general population, particularly in the younger age groups. Microvascular and macrovascular complications are associated with even lower levels of HrQoL. Prevention of complications may enhance quality of life in Type 2 diabetes.

GENDER-SPECIFIC DISORDERS

PGS1

ALOPECIA, PSYCHOLOGICAL DISTRESS AND QUALITY OF LIFE

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The loss of hair either due to ageing, pathology or a drug therapy, often proves to be badly supported by those who suffer from it. **OBJECTIVE:** Evaluate the psychological impact and the consequences on Quality of Life of hair loss. **METHOD:** Literature review. **RESULTS:** This review confirms that loss of hair has an important psychosocial impact. The lack of self-esteem, emotional reactions, frustrations and social inabilities are recurrent terms. The change of Quality of Life and of satisfaction develop as much as the degree of hair loss. Subjects with advanced alopecia report twice as much socio-emotional effect as those with a mild and/or moderate alopecia. Women suffer more of anxiety, of low self-estimation and unsatisfaction of the body image and of their general Quality of Life. Young people with early hair loss prove to be more psychologically sensitive. Children are also vulnerable and some aggressiveness is noticed. A sound psychological morbidity can be associated to alopecia. It can induce distress, which, in some cases, changes into a real depression. Koo has identified, on the basis of DSM-III-R, near to 9% of major depression within a sampling